

**Farmall I 10U**  
**Farmall I 20U**  
Tractor

**SERVICE MANUAL**

Part number 48038308

English

October 2017

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## Link Product / Engine

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<b>Product</b>	<b>Market Product</b>	<b>Engine</b>
Farmall® 110U With 16x16 Semi-Powershift transmission	Asia Pacific	F5GFL413B*B015
Farmall® 110U With 16x16 Semi-Powershift transmission	Australia New Zealand	F5GFL413B*B015
Farmall® 120U With 16x16 Semi-Powershift transmission [ZFLD00710 - ]	Australia New Zealand	F5GFL413A*B023
Farmall® 120U With 16x16 Semi-Powershift transmission [ZFLD00710 - ]	Asia Pacific	F5GFL413A*B023

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# INTRODUCTION

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## **Foreword - Important notice regarding equipment servicing**

All repair and maintenance work listed in this manual must be carried out only by qualified dealership personnel, strictly complying with the instructions given, and using, whenever possible, the special tools.

Anyone who performs repair and maintenance operations without complying with the procedures provided herein shall be responsible for any subsequent damages.

The manufacturer and all the organizations of its distribution chain, including - without limitation - national, regional, or local dealers, reject any responsibility for damages caused by parts and/or components not approved by the manufacturer, including those used for the servicing or repair of the product manufactured or marketed by the manufacturer. In any case, no warranty is given or attributed on the product manufactured or marketed by the manufacturer in case of damages caused by parts and/or components not approved by the manufacturer.

The manufacturer reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring any obligation to install them on units previously sold. Specifications, descriptions, and illustrative material herein are as accurate as known at time of publication but are subject to change without notice.

In case of questions, refer to your CASE IH Sales and Service Networks.

## Safety rules


### Personal safety





This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

Throughout this manual you will find the signal words DANGER, WARNING, and CAUTION followed by special instructions. These precautions are intended for the personal safety of you and those working with you.

Read and understand all the safety messages in this manual before you operate or service the machine.

 DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

 WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

 CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

**FAILURE TO FOLLOW DANGER, WARNING, AND CAUTION MESSAGES COULD RESULT IN DEATH OR SERIOUS INJURY.**

### Machine safety

**NOTICE:** Notice indicates a situation that, if not avoided, could result in machine or property damage.

Throughout this manual you will find the signal word Notice followed by special instructions to prevent machine or property damage. The word Notice is used to address practices not related to personal safety.

### Information

**NOTE:** Note indicates additional information that clarifies steps, procedures, or other information in this manual.

Throughout this manual you will find the word Note followed by additional information about a step, procedure, or other information in the manual. The word Note is not intended to address personal safety or property damage.

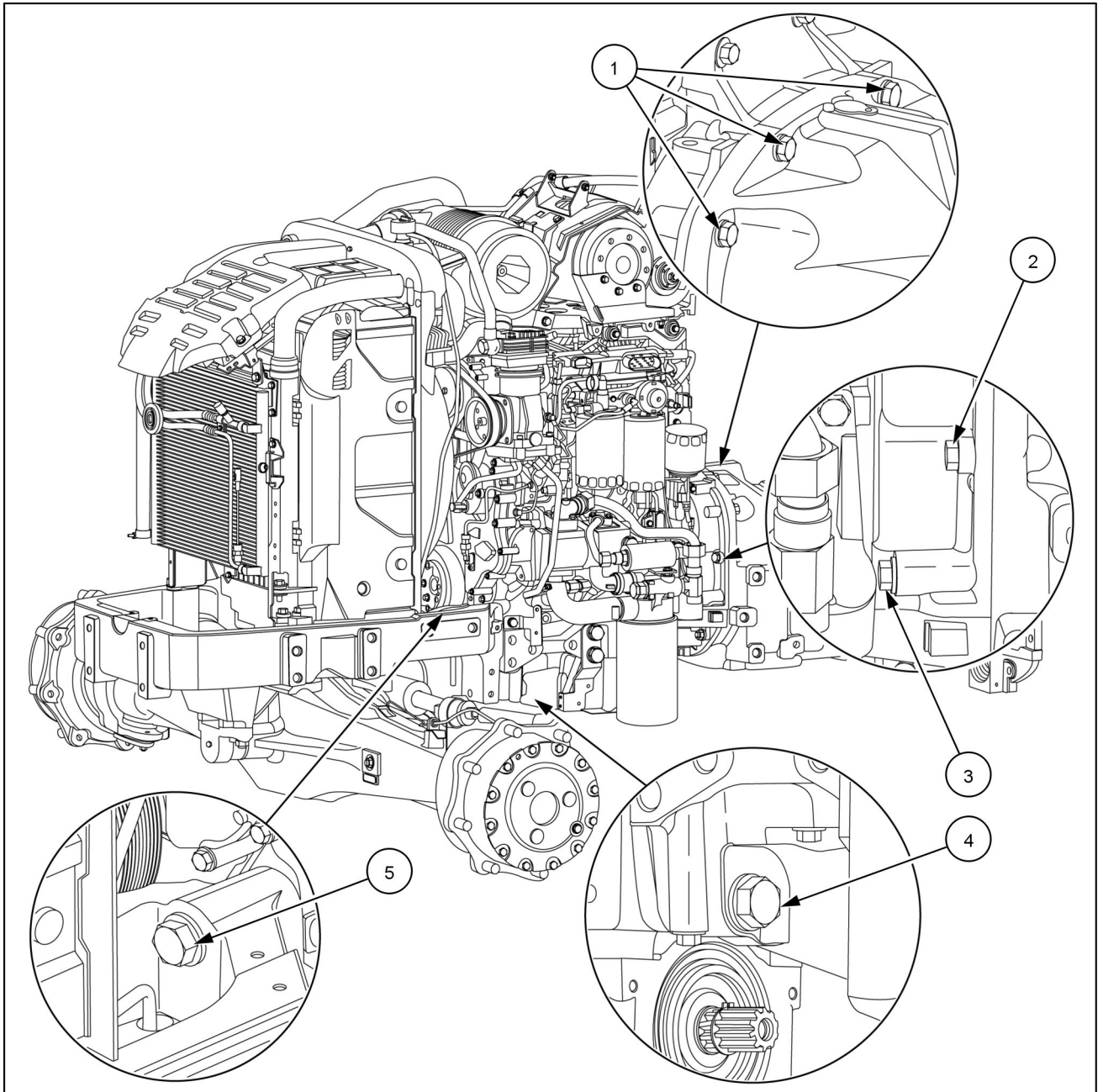


## **SERVICE MANUAL**

### **Engine**

**Farmall® 110U With 16x16 Semi-Powershift transmission  
Farmall® 120U With 16x16 Semi-Powershift transmission [ZFLD00710 - ]**

## Engine - Torque



MOIL15TR01705GA 1

Part to tighten	Thread	Tightening torque
Bolt (5) retaining the front axle support to the engine block	M20 x 1.5 x 130	587 N·m (432.95 lb ft)
Bolt (4) retaining the engine block to the front axle	M20 x 1.5 x 110	587 N·m (432.95 lb ft)
Bolt (1) retaining the transmission housing to the engine block	M12 x 1.25 x 50	121 N·m (89.25 lb ft)
Bolt (2) retaining the engine block to the transmission housing	M12 x 1.25 x 50	121 N·m (89.25 lb ft)
Bolt (3) retaining the engine block to the transmission housing	M12 x 1.25 x 90	121 N·m (89.25 lb ft)

## Engine - Remove

### ⚠ WARNING

#### Heavy objects!

Lift and handle all heavy components using lifting equipment with adequate capacity. Always support units or parts with suitable slings or hooks. Make sure the work area is clear of all bystanders. Failure to comply could result in death or serious injury.

W0398A

### ⚠ WARNING

#### Avoid injury!

Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.

Failure to comply could result in death or serious injury.

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#### Prior operation:

Hood - Remove (90.100).

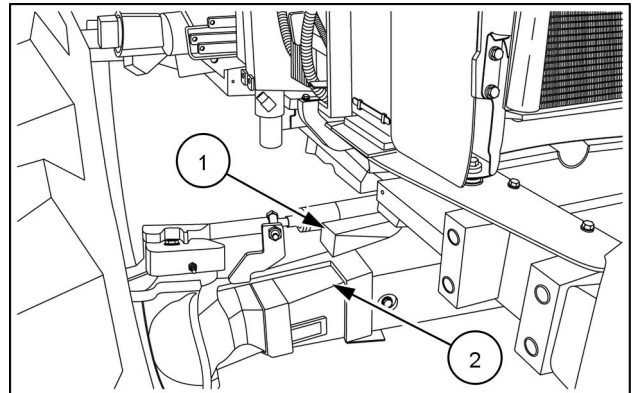
Side panels - Remove (90.100).

Fuel tank - Remove (10.216).

Fender - Remove (90.116).

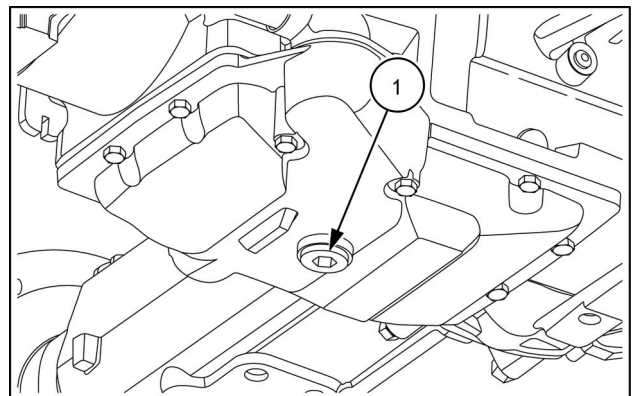
Cab and platform - Remove (90.150).

1. Position wooden wedges (1) between the front axle and the front axle support (2) to prevent articulation.



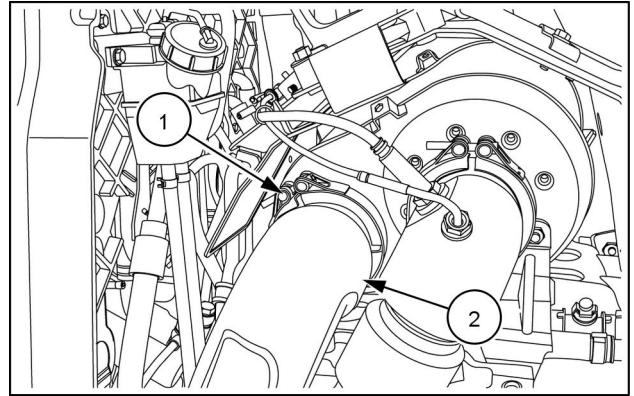
MOIL15TR01239AA 1

2. Drain the engine coolant as described in **Radiator - Drain fluid (10.400)**.
3. Position a container for transmission oil recovery under the transmission casing near the plug (1).
4. Remove the plug (1) and drain the transmission oil.



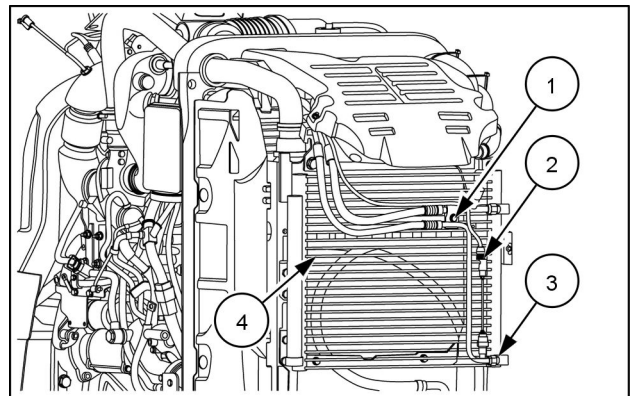
MOIL15TR01232AA 2

5. Loosen the retaining clamp (1) and disconnect the exhaust pipe (2) as described in **Selective Catalytic Reduction (SCR) muffler and catalyst - Remove (10.500)**.



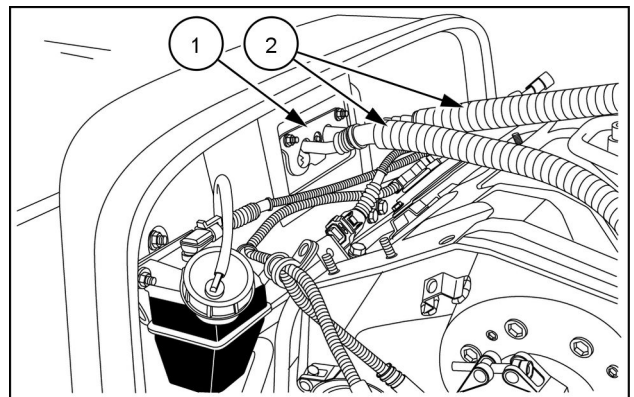
MOIL15TR00525AA 3

6. Disconnect the hydraulic fitting (3) on the capacitor (4) and loosen (1) the retaining clamp.
7. Disconnect the sensor wiring (2).



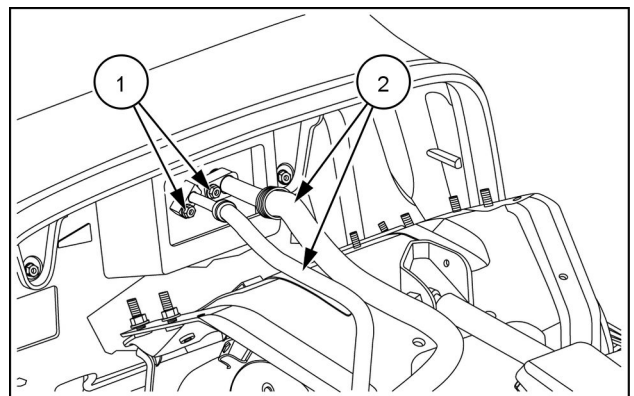
MOIL15TR01231AA 4

8. Loosen the retaining nuts and remove the plate (1) retaining the air-conditioning system lines (2).



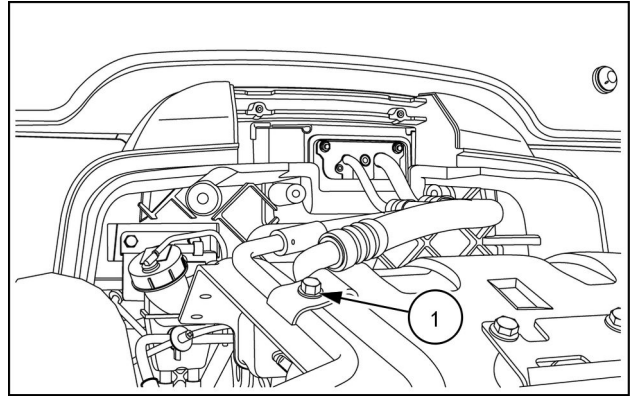
MOIL15TR00766AA 5

9. From the cab side, disconnect the air-conditioning pipes (2) from the supercharger, loosening the retaining nuts (1).



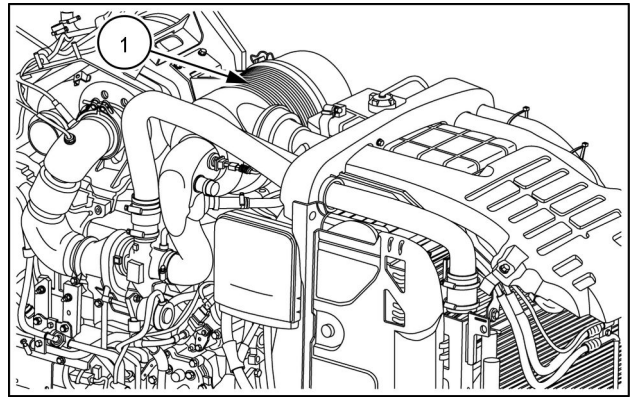
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10. Release the lines loosening the retaining clamp (1) screw.



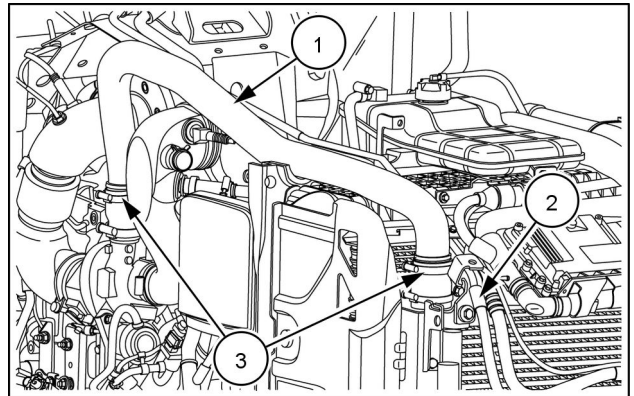
MOIL15TR00326AA 7

11. Remove the air filter (1), see **Air cleaner - Remove (10.202)**.



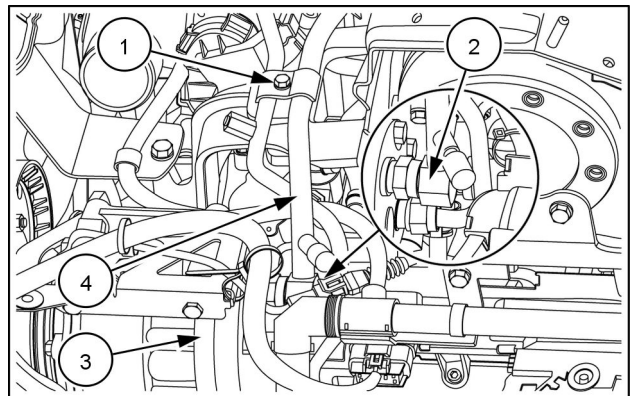
MOIL15TR01233AA 8

12. Loosen the fixing clamps (3) and disconnect the pipe (1) from the turbine to the radiator in the aftercooler.
13. Remove the air conditioning pipe (2) from the capacitor to the cab.



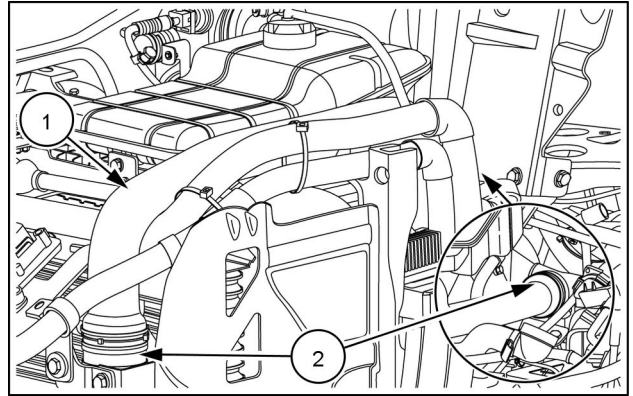
MOIL15TR01234AA 9

14. Disconnect the coupling (2) and loosen the retaining clamp (1).
15. Remove the air conditioning pipe (4) from the compressor (3).



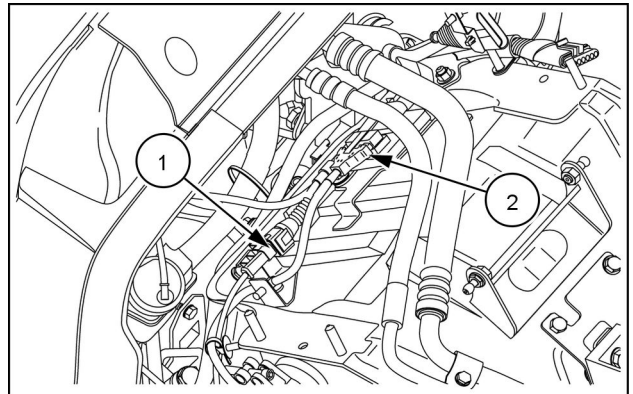
MOIL15TR01226AA 10

16. Loosen the retaining clamps **(2)** and remove the pipe **(1)** between the aftercooler radiator and the engine.



MOIL15TR01235AA 11

17. Disconnect the electrical connections **(1)** of the inlet temperature sensor of the Diesel Oxidation Catalyst DOC and the electrical connections of the NOx electronic control unit **(2)**.

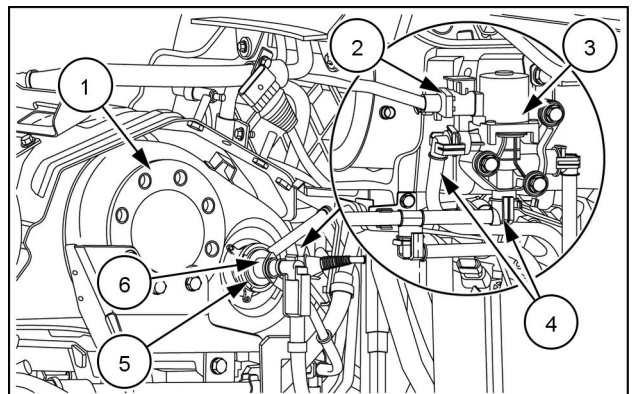


MOIL15TR00710AA 12

18. Loosen the clamp **(5)** retaining the diesel exhaust fluid dosing module **DEF/AdBLUE® (6)**.

19. Leaving the lines and electrical connection connected, remove the diesel exhaust fluid dosing module **DEF/AdBLUE® (6)** from the diesel oxidation catalyst (DOC) **(1)** and move it on one side.

20. Disconnect the electrical connection **(2)** of the coolant control valve **(3)** and the hydraulic lines **(4)**.



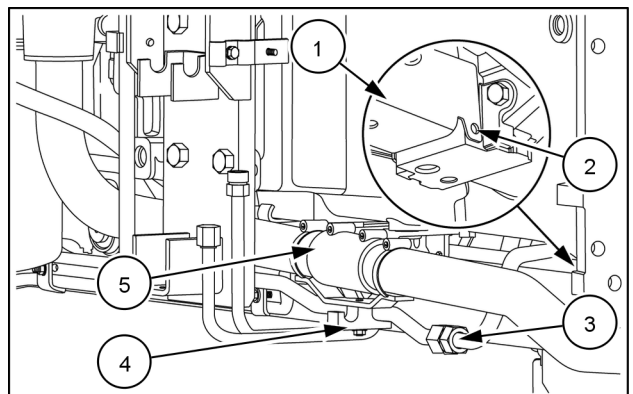
MOIL15TR01236AA 13

21. Disconnect the inlet pipe **(5)** of the filter loosening the retaining clamps.

22. Disconnect the hydraulic fitting **(3)** of the heat exchanger pipe.

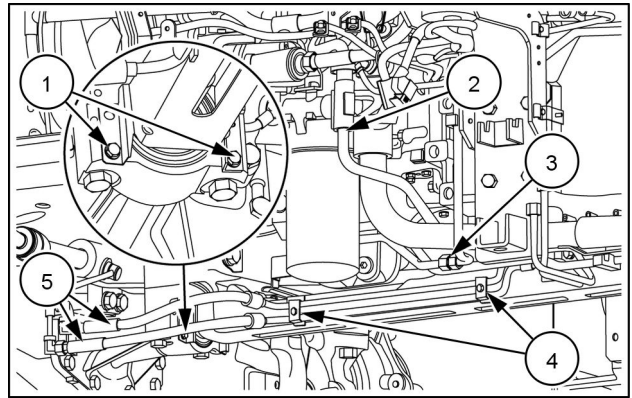
23. Loosen and remove the retaining clamp **(4)**.

24. Loosen the rear retaining bolts **(2)** of the front transmission drive shaft guard **(1)**.



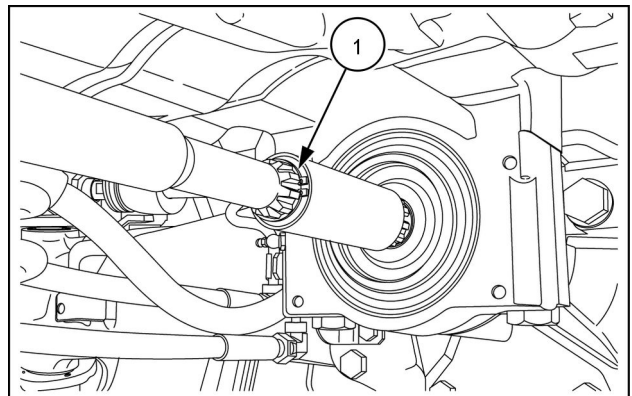
MOIL15TR01238AA 14

25. Disconnect the oil delivery line (2) to the control valves.
26. Release the steering cylinder control lines from the retaining clamps (4) and disconnect the hydraulic fittings (5) to remove them.
27. Loosen the front retaining bolts (1) from the front transmission drive shaft guard.
28. Disconnect the hydraulic fitting (3) of the oil pipe.



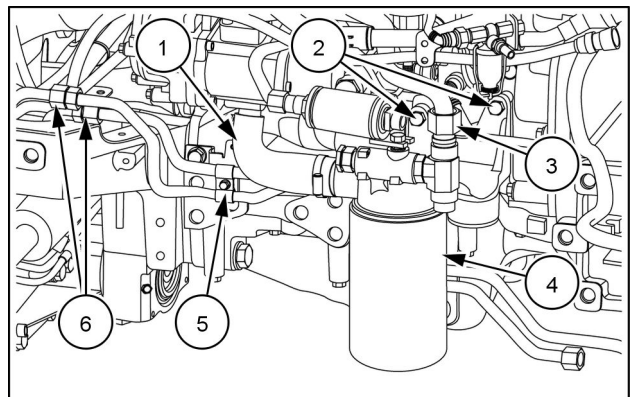
MOIL15TR01237AA 15

29. Remove the front transmission drive shaft (1) as described in **Front drive shaft - Remove (23.314)**.



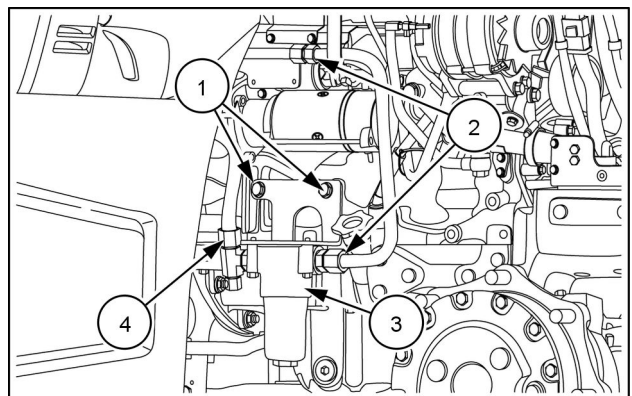
MOIL15TR01371AA 16

30. Remove the retaining clamp (5) to release the lines.
31. Remove the sleeve (1) from the oil pump to the oil filter.
32. Disconnect the hydraulic connections (3) and (6).
33. Loosen the retaining bolts (2) and remove the oil filter unit (4).



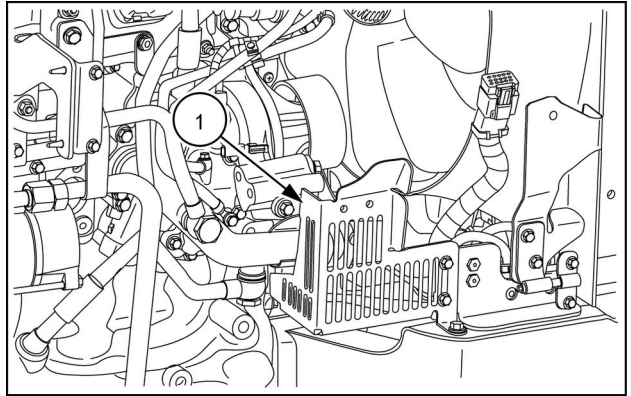
MOIL15TR01227AA 17

34. On the right-hand side of the engine disconnect the hydraulic connections (4) and (2) of the lines to the hydraulic steering system control valve.
35. Loosen the retaining bolts (1) of the filter support and remove the hydraulic steering system oil filter unit (3).
36. Remove the hydraulic steering system filter unit.



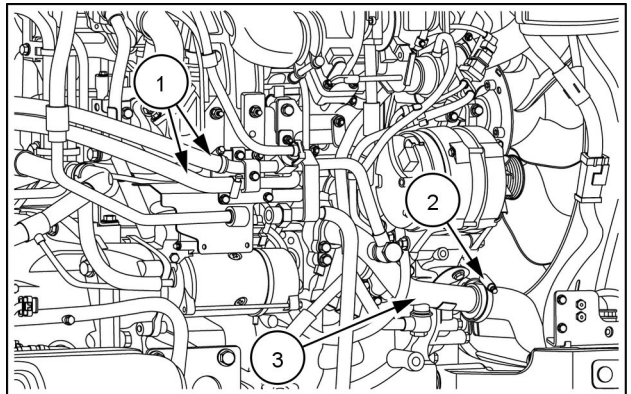
MOIL15TR01221AA 18

37. Remove the protective grille (1).



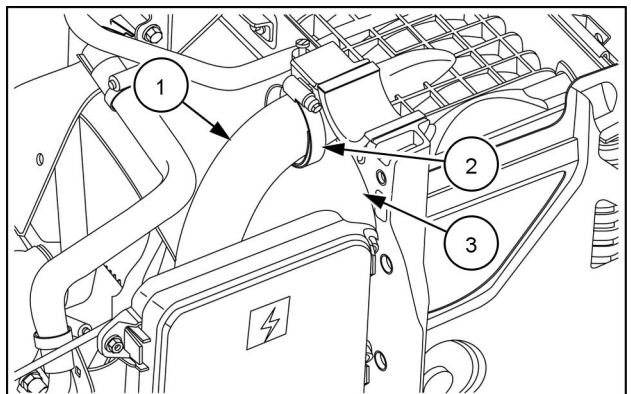
MOIL15TR00544AA 19

38. Disconnect the cab heating pipes (1).
39. Loosen the retaining clamp (2) and disconnect the line (3) from the conveyor.



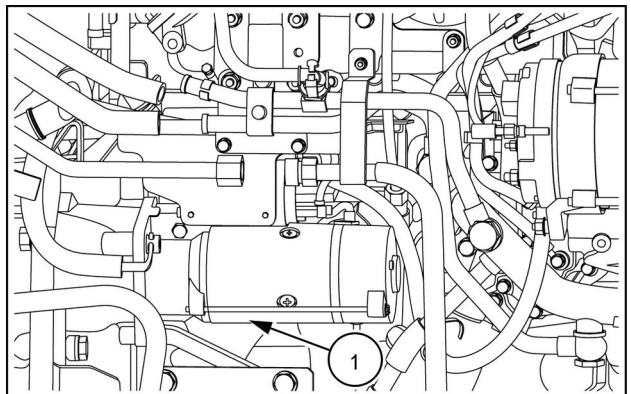
MOIL15TR01222AA 20

40. Loosen the retaining clamp (2) and disconnect the pipe (1) from the conveyor (3).



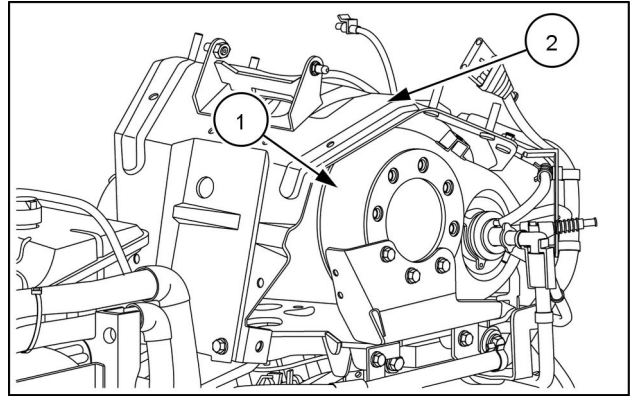
MOIL15TR01223AA 21

41. Remove the starter motor (1) on the right-hand side of the engine.



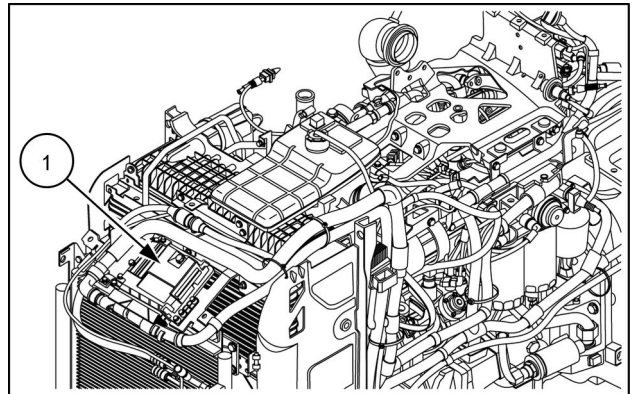
MOIL15TR01224AA 22

42. Remove the hood support (2), as described in **Hood pivoting system - Remove (90.100)**.
43. Remove the Diesel Oxidation Catalyst (DOC) (1) as described in **Diesel Oxidation Catalyst (DOC) - Remove (10.500)**.



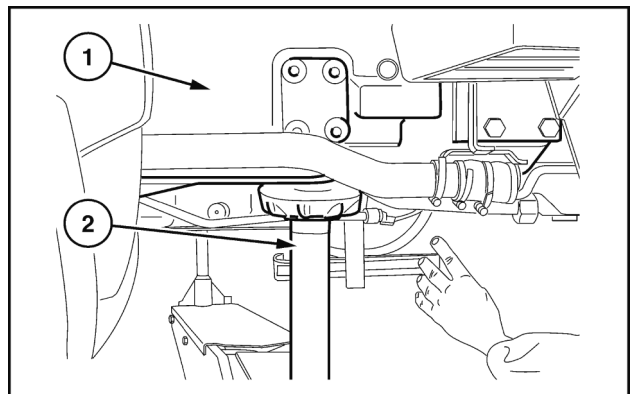
MOIL15TR01225AA 23

44. Disconnect the wiring harness starting from the engine control unit (1) up to the maxi fuse box taking care to disconnect the temperature and pressure sensors placed on the engine.
45. Collect the wiring on both sides of the engine and remove it.



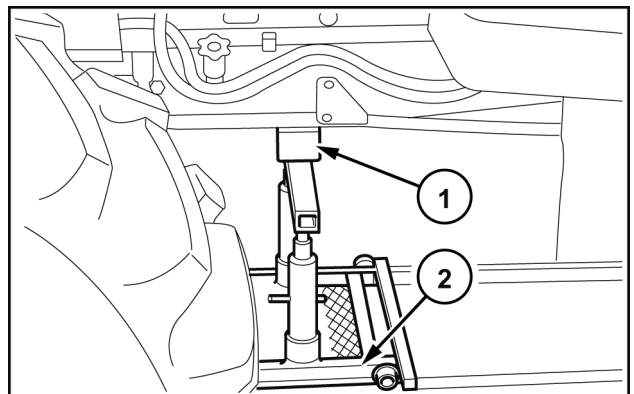
MOIL15TR01228AA 24

46. Hook the rear part of the engine onto a hoist using chains or hoisting ropes (apply two eyebolts, one to the right and one to the left, on the upper part of the flange containing the flywheel). Position a fixed jack stand (2) under the clutch housing (1) near the flange coupling on the engine.



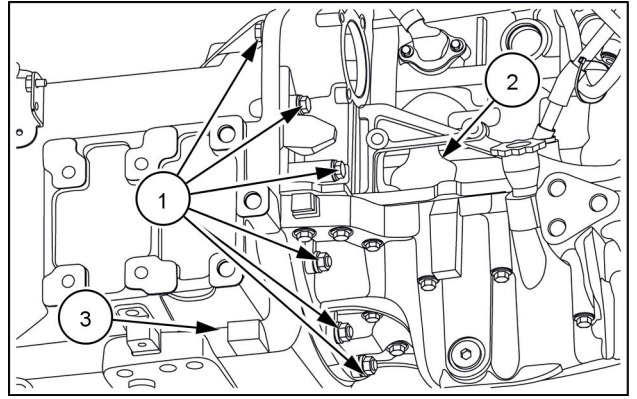
WLAPL4S10C129A 25

47. Position the movable tool for dismantling tractors 380003114 (2) with the support bracket and adapter plate under the engine. Place a wooden block (1) in the contact points between the tool and the engine.



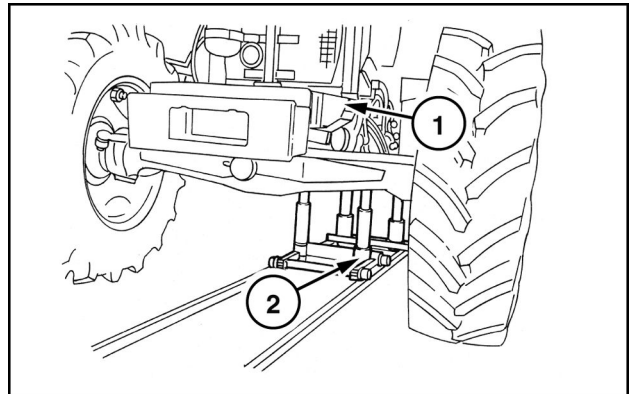
WLAPL4S10C140A 26

48. Remove the retaining screws (1) between the engine casing (2) and the transmission casing (3).



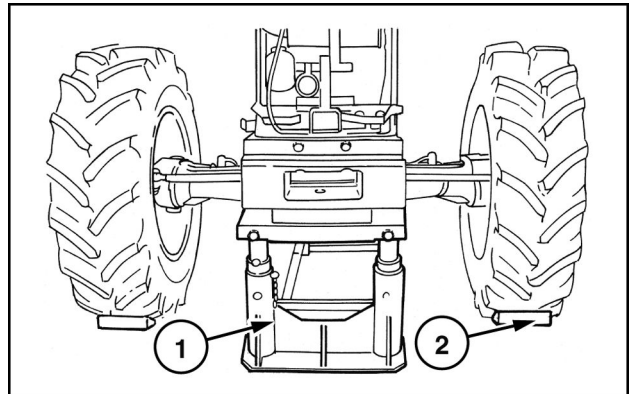
MOIL15TR01229AA 27

49. Separate the engine (1) from the transmission using the specific tool 380003114 (2).



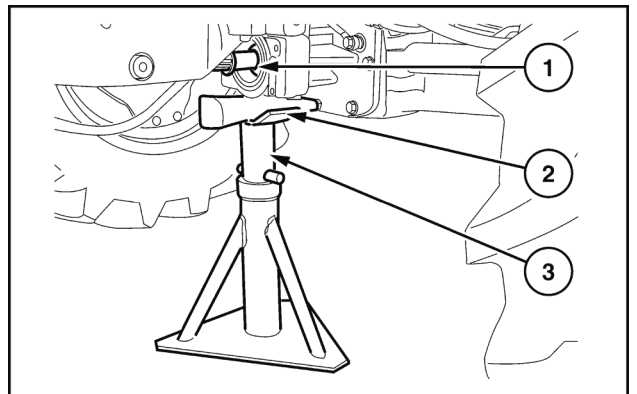
WLAPL4S10C131AA 28

50. Insert the fixed jack stand (1) under the ballast support and secure the front wheels with wooden wedges (2).



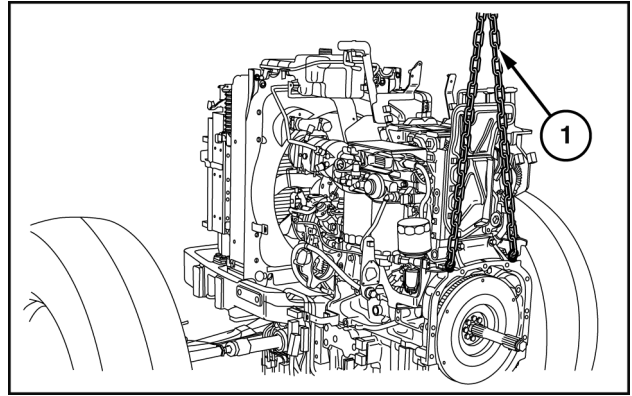
WLAPL4S10C132AA 29

51. Position a fixed jack stand (3) under the splined support (1) of the front axle Power Take-Off (PTO), placing a wooden plug (2) between parts (3) and (1).



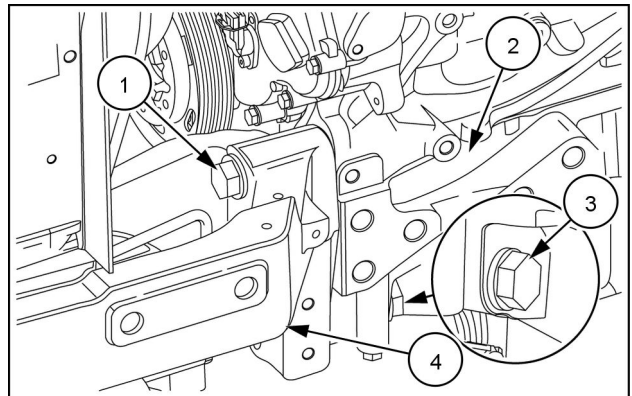
WLAPL4S10C133A 30

52. Position a jack stand under the rear part of the engine so as to be able to release the hoist with the coupling device in complete safety. Add a rope or chain **(1)** also on the front of the engine. Take up the slack with the lifting device, keeping the engine balanced.



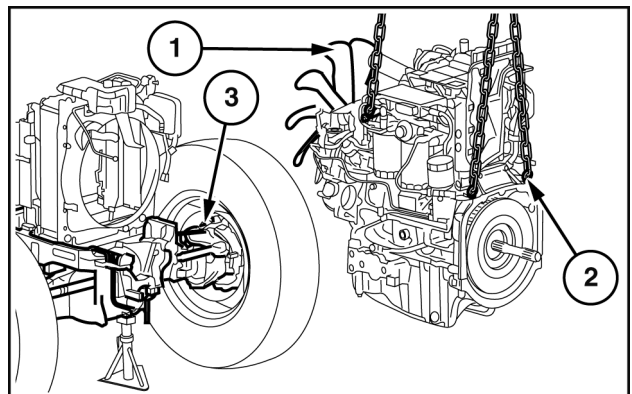
WLAPL4S10C136A 31

53. Remove the screws **(1)** and **(3)** that retain the front suspension **(2)** to the engine block **(4)**. Collect the related washers.



MOIL15TR01702AA 32

54. Check that there are no parts still connected or that interfere with the aftercooler group and the engine.
55. Slowly remove the engine **(2)** from the front suspension **(3)** avoiding incorrect movements to prevent damaging the fan **(1)** and the radiator body.



WLAPL4S10C138A 33

## Engine - Install

### ⚠ WARNING

**Heavy objects!**

Lift and handle all heavy components using lifting equipment with adequate capacity. Always support units or parts with suitable slings or hooks. Make sure the work area is clear of all bystanders.

Failure to comply could result in death or serious injury.

W0398A

### ⚠ WARNING

**Avoid injury!**

Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.

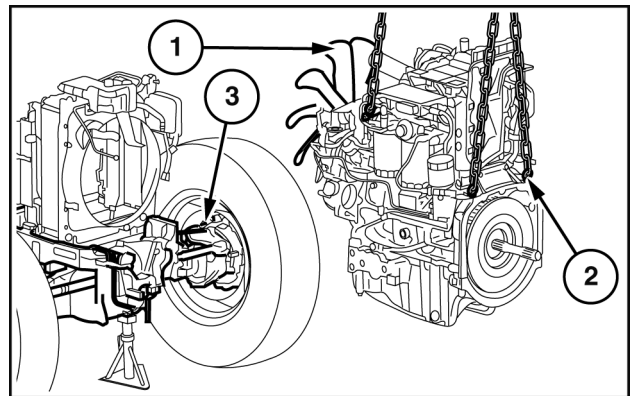
Failure to comply could result in death or serious injury.

W0208A

### Prior operation:

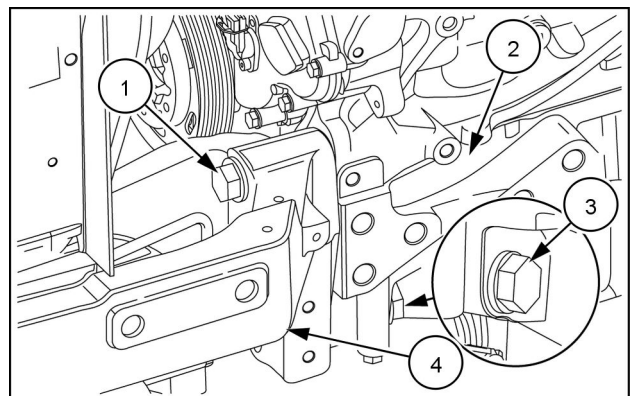
#### Engine - Remove (10.001).

1. Slowly position the engine (2) on the front suspension (3) avoiding incorrect movements to prevent damaging the fan (1) and the radiator body.



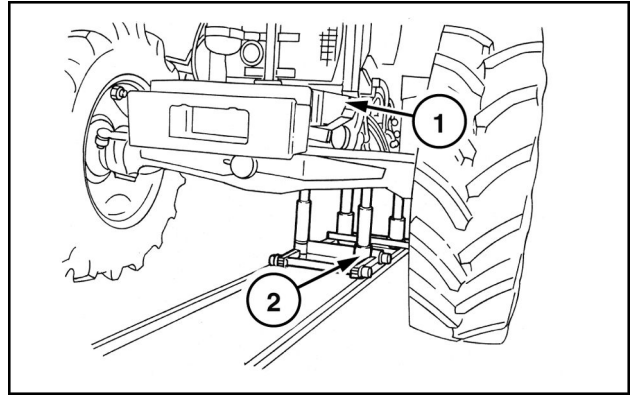
WLAPL4S10C138A 1

2. Secure the front suspension (4) to the engine block (2) tightening the screws (1) and (3) as described in Engine - Torque (10.001).



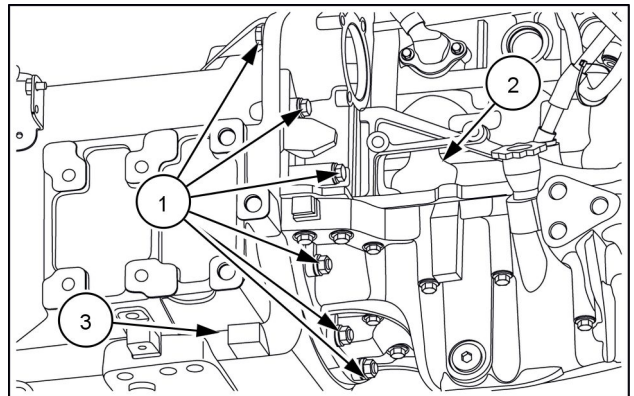
MOIL15TR01702AA 2

- Using the special tool **380003114 (2)** move the whole engine lock front suspension **(1)** towards the transmission casing.



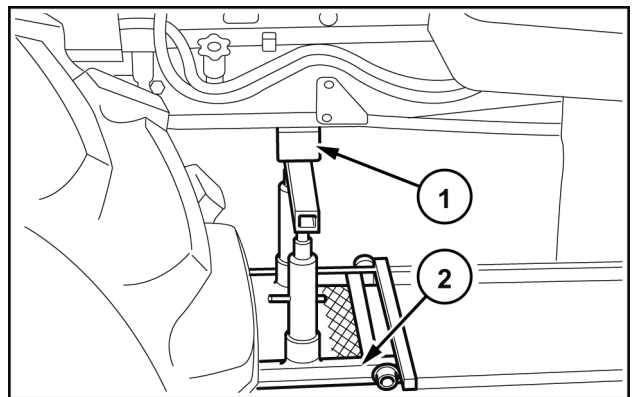
WLAPL4S10C131AA 3

- Secure the engine **(2)** to the transmission casing **(3)** tightening the screws **(1)** as described in **Engine - Torque (10.001)**.



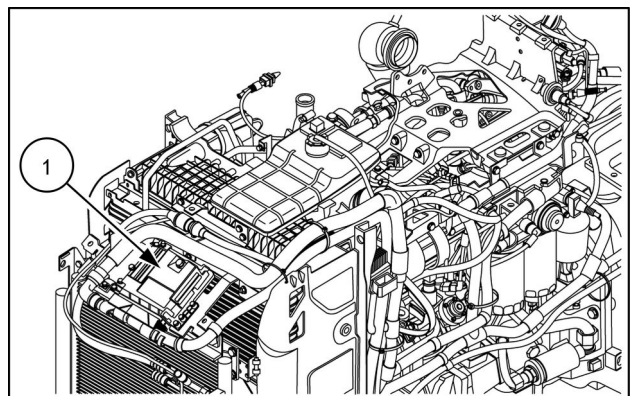
MOIL15TR01229AA 4

- Remove the special tool **(2) 380003114** recovering the adapter plate **(1)**.



WLAPL4S10C140A 5

- Starting from the engine control unit **(1)**, lay out the electric wiring harness restoring the connections of the temperature and pressure sensors placed on the engine.



MOIL15TR01228AA 6



**Suggest:**

**If the above button click is invalid.**

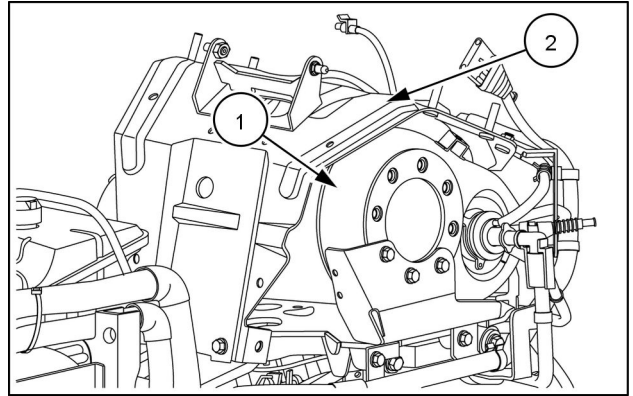
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**first, and then click the above link**

**to download the complete manual.**

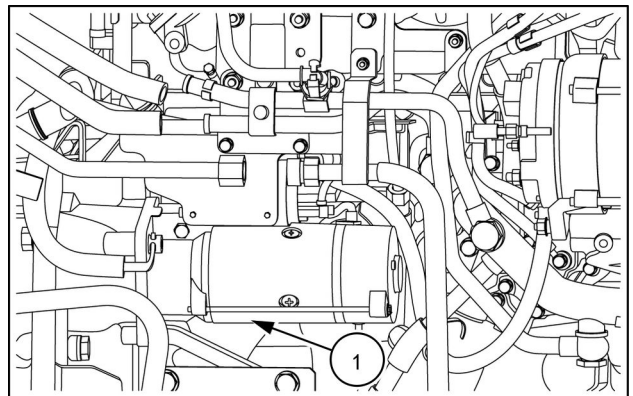
**Thank you so much for reading**

7. Position and secure the catalyst (1) as described in **Diesel Oxidation Catalyst (DOC) - Install (10.500)**.
8. Position the hood support (2), as described in **Hood pivoting system - Install (90.100)**.



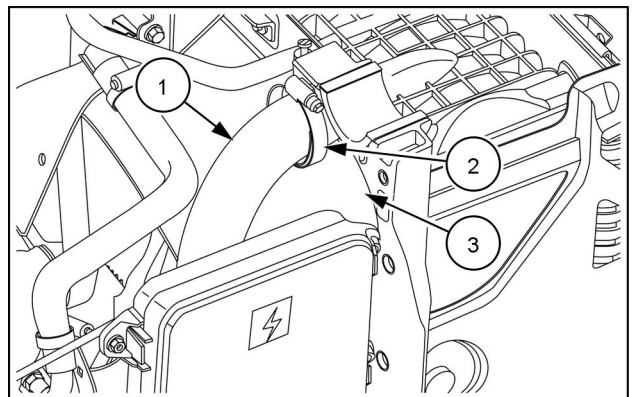
MOIL15TR01225AA 7

9. Position and secure the starter motor (1) on the right-hand side of the engine.



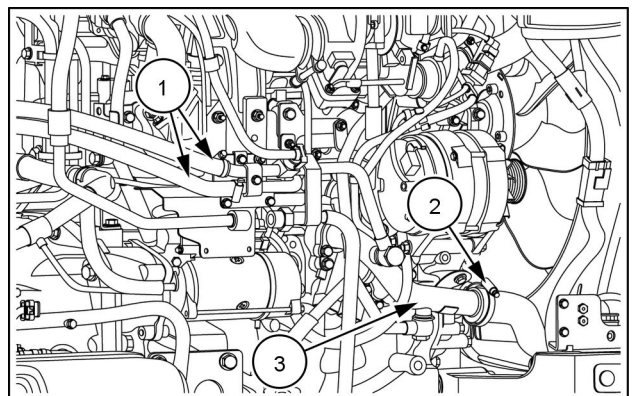
MOIL15TR01224AA 8

10. Connect the pipe (1) to the conveyor (3) and tighten the clamp (2) to secure it.



MOIL15TR01223AA 9

11. Connect the cab heating pipes (1).
12. Connect the pipe (3) to the conveyor and tighten the clamp (2) to secure it.



MOIL15TR01222AA 10

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